CS7.30 — Computer Graphics

Instructor: Avinash Sharma
Release Date: February 11
Due Date: February 24 23:55
Assignment: 2

Note - This is a 3D Game that you can build using either OpenGL or WebGL (it is up to you).

1 3D World

- The world consists of an ocean that stretches to infinity.
- You are the captain of a ship and have to roam around this ocean.
- There are enemy pirate ships that can attack you and you can attack them.
- You can collect treasure chests floating around on the water surface.

2 Ships

- There are 2 kinds of ships - your own ships and the enemy ships.
- Your ship can move on the surface of the water freely using the WASD keys.
- Both kinds of ships can shoot each other with cannon balls.
- The enemy ships have to randomly spawn and then approach towards the main ship to destroy it.
- You have to destroy the enemy ships while the enemy ships have to attempt to destroy you with these cannon balls.
- There can be a scoring system that you can decide depending upon how the ships are hit/destroyed with the cannon balls and the treasure collected.

3 Treasure Chest

- You also have to design some kind of treasure chest.
- These chests have to spawn randomly that have to be collected upon collision.
- You can assign a scoring system with this as well.

4 Different Camera Views

Your game must have the capability to change the camera view for the gamer:

- There can be a close-up third person view for the main ship.
- There can be a top bird's eye view for the game.

Note - The operations of the WASD Movement Keys must semantically change in between the views.

5 Display

Keep a display visible on the screen indicating the score, health, treasures, time, etc.

6 Submission Instructions

Please zip your main directory after removing the build directory and rename it as "Roll-Number_A2.zip" and upload the zip. Remember to submit your own code.

Submit the entire project directory with the dependencies and not some random individual files. In case of WebGL, you can get rid of the node packages but remember to submit the package.json file that has to be used to install the packages. Please contact any of the TAs well before deadline if you have any doubts in this.